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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JERRELL HEIN

Appeal 2009-009635
Application 10/675,529
Technology Center 2100

Before: JEAN R. HOMERE, DEBRA K. STEPHENS, and
JAMES R. HUGHES, *Administrative Patent Judges*.

STEPHENS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) (2002) from a final rejection of claims 1-3, 5-11, 13-20, 22 and 23. Claim 12 was canceled in an amendment filed October 31, 2006 and claims 4 and 21 were canceled in the amendment filed April 30, 2007. We have jurisdiction under 35 U.S.C. § 6(b) (2008).

We AFFIRM.

Introduction

According to Appellant, the invention is a system and method for communication with an electronic device and more particularly to dual use of a communication terminal (Spec. 1, [1001]).

STATEMENT OF CASE

Exemplary Claims

Claims 1 and 10 are exemplary claims and are reproduced below:

1. An apparatus comprising:

a terminal; and

control circuitry coupled to the terminal to permanently convert the terminal from a first mode of operation in which serial communications are received over the terminal into a second mode of operation in which the terminal functions to selectively enable an output according to a voltage value on the terminal;

wherein the control circuit is responsive to a communication received over the terminal to convert the terminal to the second mode of operation.

10. An apparatus comprising:

a terminal;

control circuitry coupled to the terminal to permanently convert the terminal from a first mode of operation in which serial communications are received over the terminal into a second mode of operation in which the terminal functions to selectively enable an output according to a voltage value on the terminal; and

a second terminal that functions as a dedicated programmable input/output terminal over which serial communications and a calibration clock are received, the second terminal not being convertible into a dedicated input control for an output enable function.

Prior Art

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Torode	US 5,451,912	Sep. 19, 1995
Hauck	US 6,670,852 B1	Dec. 30, 2003 Filed Oct. 17, 2001
Spenea	US 6,882,214 B2	Apr. 19, 2005 Effectively Filed May 16, 2003

REJECTIONS

Claims 1 - 3, 5 - 9, 11, 13 - 20, 22 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Torode and Spenea. (Ans. 3-7.)

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Torode, Spenea, and Hauck. (Ans. 7-8.)

GROUPING OF CLAIMS

(1) Appellant argues claims 1-3, 5-9 and 22 as a group on the basis of claim 1 (App. Br. 6-8). We accept independent claim 1 as the representative claim. We will, therefore, treat claims 2, 3, 5-9, and 22 as standing or falling with representative claim 1.

(2) Appellant argues claims 11, 13, 16-18, and 23 as a group on the basis of claim 11 (App. Br. 9-11). We accept independent claim 11 as the representative claim. Additionally, we will consider Appellant's separately headed arguments of claims 14 and 15 concurrently with our consideration of Appellant's argument of claim 11 above and accept claim 14 as the representative claim. We will, therefore, treat claims 13, 16-18 and 23 as standing or falling with representative claim 11 and claim 15 as standing or falling with claim 14.

(3) Appellant argues claims 19 and 20 as a group on the basis of claim 19 (App. Br. 12-15). We accept independent claim 19 as the representative claim. We will, therefore, treat claim 20 as standing or falling with representative claim 19.

(4) Appellant argues claim 10 separately (*id.* at 15-19, Reply Br. 2-3). We will, therefore, consider claim 10 separately.

We accept Appellant's grouping of the claims. *See* 37 C.F.R. § 41.37(c)(1)(vii).

ISSUE 1

35 U.S.C. § 103(a): claims 1- 3, 5-9, 19, 20, and 22

Appellant asserts their invention is not obvious over Torode and Spenea because the references fail to teach "permanently converting from a

first mode of operation in which serial communications are received over the terminal into a second mode of operation in which the terminal functions to selectively enable an output according to a voltage value on the terminal, as required by claim 1” (App. Br. 7) (emphasis original). More specifically, Appellant argues Spenea discloses that PIN C of Spenea must be used to blow metal fuse 33 to lock the trimming circuit and thus, must be used as a power supply node to lock the trimming circuit, which the Office relies on to teach the permanent conversion from a first mode of operation (App. Br. 7-8). However, according to Appellant, the combination of the technique taught by Spenea and the system of Torode changes the function of the OD pin of Torode from its established functions of receiving an output disable signal and receiving serial input data to receiving a power supply signal of Spenea, which is not a predictable use of prior art elements according to their established functions (App. Br. 8).

The Examiner states that “Applicant has failed to identify any claimed limitation that is not met by one of the cited prior art references.” (Ans. 9.) The Examiner explains that Spenea is not relied upon for providing a power supply signal (Ans. 9). Instead, the Examiner asserts Spenea is relied upon the permanent conversion from one mode of operation to another mode of operation (*id.*). Additionally, the Examiner asserts that raising the voltage on an input pin to blow a fuse, as taught by Spenea, does not change the function of the input pin to a power supply pin, i.e., it does not require the pin to be a voltage pin (*id.*). Thus, the Examiner finds the combination of Torode and Spenea teaches an input pin can receive a high voltage to

permanently convert the input pin from a first mode of operation to a second mode of operation (*id.*).

Issue 1: Has Appellant shown the Examiner erred in finding the combination of references teaches or fairly suggests “permanently convert[ing] the terminal from a first mode of operation in which serial communications are received over the terminal into a second mode of operation in which the terminal functions to selectively enable an output according to a voltage value on the terminal,” as recited by claim 1?

FINDINGS OF FACT (FF)

Spenea

(1) Conventional post-assembly IC trimming procedures generally end with a locking step, designed to disconnect the trimming block from the package pins, making these pins available for other functions, and disable permanently the trimming block, while preserving the trimmed parameter values status. (Col. 1, ll. 14-19).

ANALYSIS

We agree with and adopt the Examiner’s findings and further emphasize the following (Ans. 3-4). We agree with the Examiner’s finding that Spenea teaches a permanent mode change (*See* FF 1 and Ans. 4) and conclusion that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Torode to include the permanent mode change (Ans. 4).

Appellant has not shown that adapting Spenea's permanently converting a terminal from one mode to another mode to the teachings of Torode's programmable crystal oscillator's output disable pin would have been uniquely challenging or otherwise beyond the level of ordinarily skilled artisans. As such, we find this enhancement would have been obvious. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) (noting that if a technique has been used to improve one device, and an ordinarily skilled artisan would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill); *see also Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007).

Therefore, Appellant has not shown that the Examiner erred in finding the combination of Spenea and Torode would have taught or fairly suggested the invention as recited in claim 1 to one of ordinary skill in the art. Claims 2, 3, 5-9, and 22 depend from claim 1 and were not argued independently, and thus, fall with claim 1. Accordingly, Appellants have not shown the Examiner erred in rejecting claims 1- 3, 5-9, and 22 under 35 U.S.C. § 103(a) for obviousness over Torode and Spenea.

ISSUE 2

35 U.S.C. § 103(a): claims 11, 13-18, 23

Appellant asserts their invention is not obvious over Torode and Spenea for the same reasons set forth for claim 1 and further because Spenea fails to teach or suggest permanently converting the terminal to a second mode of operation in response to a received command (App. Br. 9-11).

Appellant additionally argues claim 14, asserting Spenea does not teach or suggest that the current that blows the fuse is a command serially communicated over a terminal.

The Examiner responds that Appellant did not define “communication” so as to exclude a current received over a terminal (Ans. 10). Therefore, the current of Spenea is interpreted to be the communication which converts the pin to a second mode of operation (*id.*).

Issue 2: Has the Examiner erred in concluding the combination of Torode and Spenea teaches or suggests “permanently converting the terminal to a second mode of operation in response to a received command” as recited in claim 11?

FINDINGS OF FACT (FF)

Spenea

(2) The programmable fuse array outputs signals 10, through very high impedance paths (e.g., MOS gates). PIN A (VCC) 5 provides the normal IC power supply, and can be tied together with PIN C (Input) 14 during the trimming process. Once the trimming process is complete, PIN A (VCC) 5 is connected to the ground GND 7, and the PIN C 14 voltage is raised a sufficient amount so the current necessary to blow out the metal fuse 33 can flow from PIN C 14 through DLOCK2 31, Metal fuse 33, and DLOCKI 32 to PIN A (VCC) 5. After the metal fuse 33 is blown, the local VCC-Trimming line 8 is supplied from PIN A (VCC) 5, through the supply

resistor 34. The supply current for the programmable fuse array 2 is only necessary to detect the trimmed fuses status, and therefore the supply resistor 34 can be set to a large value, depending on, for example, the current requirements of the fuse array. (Col. 3, ll. 53-67).

ANALYSIS

Again, we agree with and adopt the Examiner's findings (Ans. 3-4). For the reasons set forth above in Issue 1, we find Spenea teaches or suggests "permanently converting the terminal to a second mode of operation" and "the second mode of operation permanently disabling the first mode of operation" as recited in claim 11(*id.*). We further conclude Spenea suggests permanently converting the terminal to a second mode of operation in response to a received command. We find that Spenea describes blowing out the fuse when the voltage is raised a sufficient amount (FF 2). Appellant has not defined "command" in the Specification. Therefore, Spenea would at least suggest a command to permanently convert the terminal from one mode to another. Indeed, we find that this technique is well within the skills of an ordinarily skilled artisan.

Appellant's arguments regarding claim 14 are based on limitations not recited in the claim – "a command serially communicated" (App. Br. 11 and 12). Therefore, Appellant has not shown the Examiner erred in finding Spenea teaches or suggests the method recited in claim 11 further comprises "converting the terminal from the first mode to the second mode of operation in response to the command being received over the terminal."

As a result, Appellant has failed to persuade us of error in the Examiner's finding that the combination of Spenea and Torode teach or

suggest the present invention as recited in claim 11. Since claims 13, 16-18 and 23 depend from claim 11 and were not separately argued, claims 13-18 and 23 fall with claim 11. Similarly, since claim 15 was not separately argued and depends from claim 14, claim 15 falls with claim 14.

Accordingly, Appellants have not shown the Examiner erred in rejecting claims 11, 13-18 and 23 under 35 U.S.C. § 103(a) for obviousness over Torode and Spenea.

ISSUE 3

35 U.S.C. § 103(a): claims 19 and 20

Appellant asserts their invention is not obvious over Torode and Spenea for the same reasons set forth for claim 1 and further, because Spenea fails to teach or suggest the means for permanently is responsive to a serial communication received over the terminal to convert the terminal to a second mode of operation (App. Br. 12-14).

The Examiner finds Spenea teaches the limitations as set forth for claim 1 and further responds that Appellant did not define “communication” so as to exclude a current received over a terminal (Ans. 10). Therefore, the Examiner asserts the current of Spenea is interpreted to be the communication which converts the pin to a second mode of operation (*id.*).

Issue 3: Has the Examiner erred in concluding the combination of Torode and Spenea teaches or suggests “the means for permanently converting is responsive to a serial communication received over the terminal to convert the terminal to the second mode of operation” as recited in claim 19?

ANALYSIS

For the reasons set forth above in Issue 1, we find Spenea teaches or suggests “permanently converting the terminal from a first mode of operation...into a second mode of operation...” to a second mode of operation” as recited in claim 19. We further find that Appellant has not defined the term “communication” and thus, a communication may be the voltage signal as taught by Spenea (FF 2). Therefore, we find Spenea teaches or suggests that the means for permanently converting is responsive to a communication received over the terminal. Moreover, we conclude that designing the communication to be responsive to a serial communication received over the terminal would not have been uniquely challenging or otherwise beyond the level of ordinarily skilled artisans.

Thus, we find Spenea would have taught or suggested teaches or suggests the means for permanently converting is responsive to a serial communication received over the terminal, as recited in claim 19. Claim 20 depends from claim 19 and was not separately argued and thus, claim 20 falls with claim 19.

Accordingly, Appellants have not shown the Examiner erred in rejecting claims 19 and 20 under 35 U.S.C. § 103(a) for obviousness over Torode and Spenea.

ISSUE 4

35 U.S.C. § 103(a): claim 10

Appellant asserts their invention is not obvious over Torode, Spenea and Hauck because the references do not teach the invention as recited (App. Br. 15-19, Reply Br. 2-3) and that Torode teaches away from combination

with Hauck (App. Br. 18). Specifically, Appellant contends Torode teaches away from having a terminal dedicated to a specific function as taught by Hauck and thus, teaches away from Hauck and the Examiner used hindsight to develop a rationale for combining the three references (App. Br. 18; Reply Br. 11).

The Examiner responds that “Applicant makes the same argument as presented with respect to [claim 1] above,” Torode does not teach away from a dedicated programming pin and the combination teaches the dedicated pin as recited in claim 10 (Ans. 11.)

Issue 4: Has the Examiner erred in concluding the combination of Torode, Spenea, and Hauck teaches or suggests “a second terminal that functions as a dedicated programmable input/output terminal over which serial communications and a calibration clock are received, the second terminal not being convertible into a dedicated input control for an output enable function” as recited in claim 10?

FINDINGS OF FACT (FF)

Torode

(3) It is an object of the present invention to provide a programmable crystal oscillator realized in an industry standard oscillator package that does not require any dedicated programming connections. (Abstract; Col. 1, l. 64- col. 2, l. 7).

ANALYSIS

We agree with and adopt the Examiner's findings. A reference teaches away when a skilled artisan, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path taken by Appellants. (*Kahn*, 441 F.3d at 990.) But that is not the case here. Specifically, although Torode may teach that the industry standard package does not contain any dedicated programming connections (FF 3), that is not dispositive since both the present invention and Torode include non-dedicated terminals and Torode does not discourage use of a dedicated terminal but merely indicates for an industry standard package, non-dedicated terminals are used. Further, although Torode is directed toward an "industry standard oscillator package," the present invention recites "an apparatus."

As a result, neither Hauck nor Torode teaches away from the present invention, nor does the combination of the two references as set forth by the Examiner (Ans. 7-8 and 11) teach away from the present invention. Not only has Appellant not persuaded us in this regard, but, we see no reason why skilled artisans could not have predictably employed dedicated pins as taught by Hauck, with the teachings of Torode.

Indeed, Appellant has not shown that including a dedicated terminal would have been uniquely challenging or otherwise beyond the level of ordinarily skilled artisans or represented an unobvious step over the prior art. (*See Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 418)). Moreover, we conclude that such combination is no more than a simple arrangement of old elements, with each performing the same function it had been known to perform, yielding

no more than one would expect from such an arrangement. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007).

In short, we find the Examiner's reason to combine the teachings of the cited references supported by articulated reasoning with some rational underpinning to justify the Examiner's obviousness conclusion. *See KSR*, 550 U.S. at 417.

Appellant has not shown the Examiner erred in finding that the combination of Torode, Spenea, and Hauck teaches or suggests "a second terminal that functions as a dedicated programmable input/output terminal over which serial communications and a calibration clock are received, the second terminal not being convertible into a dedicated input control for an output enable function." Further, Appellant has not shown that Torode and Hauck, taken alone or in combination, teach away from the present invention as recited in claim 10. Accordingly, Appellant has not shown the Examiner erred in rejecting claim 10 under 35 U.S.C. § 103(a) for obviousness over Torode, Spenea, and Hauck.

DECISION

The Examiner's rejection of claims 1-3, 5-9, 11, 13-20, 22 and 23 under 35 U.S.C. § 103(a) as being obvious over Torode and Spenea is affirmed.

The Examiner's rejection of claim 10 under 35 U.S.C. § 103(a) as being obvious over Torode, Spenea and Hauck is affirmed.

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Application 10/675,529

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2009).

AFFIRMED

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